

CLAIMS

1. A heat transfer label assembly comprising:
 - a first layer comprising paper;
 - a second layer comprising a varnish or other coating;
 - a third layer comprising a layer of emulsion wax or similar release coating or material; and
 - a fourth layer comprising a printed ink design layer;wherein all four layer are bonded together to form a transfer label assembly.
2. The heat transfer label assembly of claim 1 wherein said paper layer comprises a support portion of said label assembly.
3. The heat transfer label assembly of claim 1 wherein said paper layer comprises a sheet of paper with a clay coating on one side and a basis weight of about 20 to 40 lbs. per 3,000 sq. ft.
4. The heat transfer label assembly of claim 1 wherein said paper layer comprises a sheet of paper with a clay coating on one side and a basis weight of about 35 lbs. per 3,000 sq. ft.
5. The heat transfer label assembly of claim 1 wherein said varnish or other coating is curable by electron beam radiation.
6. The heat transfer label assembly of claim 4 wherein said electron-beam curable varnish or other coating comprises a portion of the support portion of the label assembly.
7. The heat transfer label assembly of claim 1 wherein said varnish or other coating comprises a layer in a thickness of approximately 0.5 to 5 lbs. per 3,000 sq. ft.

8. The heat transfer label assembly of claim 1 wherein said emulsion wax or other release material comprises a portion of said transfer portion of said label assembly.
9. The heat transfer label assembly of claim 1 wherein said emulsion wax or other release material comprises a layer of emulsion wax or similar release material in a thickness of about 0.5-5 lbs. per 3,000 sq. ft.
10. The heat transfer label assembly of claim 1 wherein said emulsion wax or other release material comprises a layer of emulsion wax or similar release material in a thickness of about 0.75 lbs. per 3,000 sq. ft.
11. The heat transfer label assembly of claim 1 wherein said ink/printed design layer comprises a portion of said transfer portion of said label assembly.
12. The heat transfer label assembly of claim 1 wherein said first, second, third, and fourth layers are bonded together to form a transfer label assembly with both support and transfer portions.
13. A process for making a heat transfer label assembly comprising:
coating or otherwise applying to a clay-coated sheet of paper a layer of varnish or other material that is cured by electron beam radiation;
conveying said EB-cured paper substrate through a press or other printing equipment whereby a skim coat of emulsion wax or similar release material is applied prior to application of an ink/printed design;
forming a support portion and transfer portion of said heat transfer label assembly.

14. The heat transfer label assembly of claim 1 wherein said support portion is positioned for transfer of said transfer portion to an article upon application of heat to said support portion, while said transfer portion is placed in contact with said article.